



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D6101-007
Job Sheet 173734



- 5055750 -

Part No: D6101-007

Job Qty: 50 ea

Part Name: Saddle Billet



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/6/18

Job Tracking No:

Due Date: 3/30/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV B

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	50 pcs		3/30/18	0.00	0.00	Purchasing		DAS Sign-off
110	Packaging	50 pcs		3/30/18	0.00	0.00	Packaging2		MAR 27 2018
120	QC	50 pcs		3/30/18	0.00	0.00	QC6		9-89 MAR 27 2018
130	Packaging	50 pcs		3/30/18	0.00	0.00	Packaging3-2		JB-18-03-28
140	QC21-SA	50 Ea		3/30/18	0.00	0.00	QC21		MAR 29 2018

Part Op 100 - Issue P/O: 039228 b) 7.750" x 8.250" x 2.50" thick d) Grain direction along 7.750" length

Descriptions: 110 - Ensure material certification is attached

120 - Ensure Material certification comply to Dwg D6101

130 - LOCATION: MAT041

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6101-007P	7075-T7351 8.25X7.75X2.5	50 pcs (1 ea)	100-Purchasing	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6101-007P	50	0	0

Part Specifications

Specifications could not be found.

Plex 3/6/18 1:22 PM Dart.lajeunesse.marie



DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

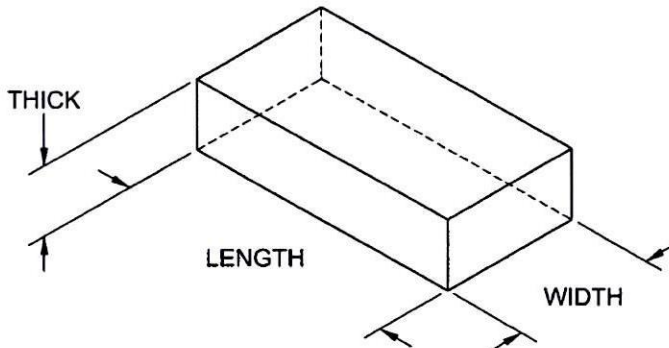
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 173734

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

△ B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12
QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/01/15/WP

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 06101-007
DATE: MAR 27 2018

PO / BATCH NO: 039228/5055128

MATERIAL CERT REC'D: yes
QUANTITY RECEIVED: 20 PCS
QUANTITY INSPECTED: 20 PCS
QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.500
THICKNESS RECEIVED: 2.500
SHEET SIZE ORDERED: N/A
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	☒ N	
CORRECT FINISH	☒ Y	☒ N	
CORROSION	Y	☒ N	
CORRECT GRAIN DIRECTION	☒ Y	☒ N	
CORRECT MATERIAL PER M-DRAWING	☒ Y	☒ N	<u>AMS-QQ-A-250/12</u>
CORRECT THICKNESS	☒ Y	☒ N	
PHOTO REQUIRED	Y	☒ N	
CORRECT REF # TO LINK CERT	☒ Y	☒ N	<u>Heat # 9401037</u>
CORRECT MATERIAL IDENTIFICATION	☒ Y	☒ N	
CORRECT M# ON THE MATERIAL	☒ Y	☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____
DATE: <u>9-89</u> <u>MAR 27 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

INTERORG TRANSFER
PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3545219

Ship From: A. M. CASTLE & CO. 4175 ROYAL DRIVE SUITE 600 KENNESAW, GA 30144 USA		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 20-MAR-18	F.O.B. ORIGIN	Freight Terms Prepaid	Carrier XPO LOGISTICS FREIGHT		BOL No 3545219-2		

Shipment Details	Final Destination Branch - TOR
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Order No 5073774	Line No 1	Item No 752241.MO	Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT RECTANGLE TO 8.25 IN (+ .0620/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0620/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
Purchase Order No 39228		Part Number YOUR ITEM NUMBER: D6101-007	Ordered Qty 20.00 PCS
Invoice Qty 20.00 PCS			

Details	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS
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Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121691726	CONSTELLIUM ROLLED PRODUCTS			3			49.5951
121691726	CONSTELLIUM ROLLED PRODUCTS			2			33.0634

INTERORG TRANSFER
PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

121691726	CONSTELLIUM ROLLED PRODUCTS			5			82.6584
121691726	CONSTELLIUM ROLLED PRODUCTS			5			82.6584
121691726	CONSTELLIUM ROLLED PRODUCTS			5			82.6584

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Matthew Mason

Date:

Name:



CERTIFIED TEST REPORT

Constellium Rolled Products
Ravenswood, LLC

S
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P

T
O

A M CASTLE & COMPANY

4175 ROYAL DRIVE
KENNESAW GA
30144
US

S
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L
D

T
O

A M CASTLE

1420 KENSINGTON ROAD, SUITE 200
OAK BROOK IL
60523
US

A M CASTLE 110591687 4776 INCLUSION Serial:20171106-0110591687 Pg 1of2

CUSTOMER PURCHASE ORDER NO. & ITEM
438527

Constellium ORDER NO.
219655

CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."
Constellium Rolled Products Ravenswood, LLC
859 Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

ALLOY	CLAD	TEMPER	GAUGE	WIDTH	LENGTH
7075		T7351	2.50000 in 63.50 mm	48.50000 in 1,232 mm	144.50000 in 3,670 mm

ITEM ORDERED
SPEC PLATE, SAWED
MILL FINISH

CUSTOMER SPECIFICATION
AMS 4078J

PART NUMBER	B/L NUMBER	DATE SHIPPED
752241	89787	11/07/2017

WT. SHIPPED	NO. OF PIECES	GOVT. CONTRACT NO.
7080.000 LB	000004	

Steve Good - Laboratory Manager

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.125" DEADZONE Class A
AMS QQ-A-250/12A
AMS STD 2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE
ASTM B209-14
BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE
CMMP025 REV U
CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE
DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE
GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE
MMS 159T
PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

Load Details

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001642800	1,770.000	802.858	9401037	01		
1001642800	1,770.000	802.858	9401037	02		
1001642801	1,770.000	802.858	9401037	03		
1001642801	1,770.000	802.858	9401037	04		

Lot: 9401037

Tensile - Room Temperature (US)

Direction	Tests	Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	73.1	74.5	62.5	64.1	11.5	12.0	





Constellium



CERTIFIED TEST REPORT
Constellium Rolled Products
Ravenswood, LLC

S
H
I
P
T
O

A M CASTLE & COMPANY

4175 ROYAL DRIVE
KENNESAW GA
30144
US

S
O
L
D
T
O

A M CASTLE

1420 KENSINGTON ROAD, SUITE 227
OAK BROOK IL
60523
US

A M CASTLE		110591687		4776		INCLUSION		Serial:20171106-0110591687		Pg 2of2																															
CUSTOMER PURCHASE ORDER NO. & ITEM 438527						Constellium ORDER NO. 219655			CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA  Steve Good - Laboratory Manager																																
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ITEM ORDERED SPEC PLATE, SAWED MILL FINISH																																									
CUSTOMER SPECIFICATION AMS 4078J																																									
PART NUMBER 752241			B/L NUMBER 89787		DATE SHIPPED 11/07/2017																																				
WT. SHIPPED 7080.000 LB		NO. OF PIECES 000004		GOVT. CONTRACT NO.																																					
Tensile - Room Temperature (SI) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Ultimate (N/MM2)</th> <th colspan="2">Yield (N/MM2)</th> <th colspan="2">Elongation (%)</th> <th colspan="2">Report</th> </tr> <tr> <th>Direction</th> <th>Tests</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>LT</td> <td>02</td> <td>504</td> <td>514</td> <td>431</td> <td>442</td> <td>11.5</td> <td>12.0</td> <td colspan="2"></td> </tr> </tbody> </table>														Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report		Direction	Tests	Min	Max	Min	Max	Min	Max			LT	02	504	514	431	442	11.5	12.0		
		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report																																	
Direction	Tests	Min	Max	Min	Max	Min	Max																																		
LT	02	504	514	431	442	11.5	12.0																																		
Conductivity % IACS MIN 39.8 MAX 40.0 % MS/M MIN 23.1 MAX 23.2																																									
Chemistry (Actual) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th></th> <th>SI</th> <th>FE</th> <th>CU</th> <th>MN</th> <th>MG</th> <th>CR</th> <th>ZN</th> <th>TI</th> <th>ZR</th> </tr> </thead> <tbody> <tr> <td>Core</td> <td>0.06</td> <td>0.17</td> <td>1.47</td> <td>0.02</td> <td>2.69</td> <td>0.21</td> <td>5.69</td> <td>0.04</td> <td>0.00</td> </tr> </tbody> </table>													SI	FE	CU	MN	MG	CR	ZN	TI	ZR	Core	0.06	0.17	1.47	0.02	2.69	0.21	5.69	0.04	0.00										
	SI	FE	CU	MN	MG	CR	ZN	TI	ZR																																
Core	0.06	0.17	1.47	0.02	2.69	0.21	5.69	0.04	0.00																																
OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER																																									
All material contained in this lot was cast and manufactured in the USA																																									
QUALITY TEXTS: AMC CA-15413B R 6																																									
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. CHEMISTRY BY OES: ARKSPARK CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399 WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557 DUNS Number: 090570149; CAGE Code: 1YW19 Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product. "END OF CERTIFICATION"																																									
P-860-155D REVISED: 10 2014																																									